

OCT 23 2006

REMARKS

By this Amendment, claims 32, 37 and 42-43 are amended. Claims 34-35 and 38-41 remain in the application. Thus, claims 32 and 34-43 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

I. Request for Examiner-Initialed Copy of September 19, 2005 Form PTO-1449

The Applicants cited Mohamed Abdel-Mottaleb et al. ("MPEG-7: Applications and Supporting Technologies," VLBV, Proceedings of VLBV, International Workshop On Very Low Bitrate Video Coding, pages 61-64, 1998, hereinafter "Mohamed") on a Form PTO-1449 dated September 19, 2005 that accompanied the Applicants' Information Disclosure Statement filed on September 19, 2005. The Examiner used the Mohamed reference in rejecting the claims of the present application. Therefore, it appears that the Examiner considered this reference.

However, the Examiner failed to return an Examiner-initialed copy of the September 19, 2005 Form PTO-1449 to indicate that this reference was indeed considered. Accordingly, the Applicants respectfully request that the Examiner initial next to the Mohamed reference on the September 19, 2005 Form PTO-1449 and return to the Applicants an Examiner-initialed copy of the September 19, 2005 to indicate consideration of this reference. For the Examiner's convenience, a courtesy copy of the September 19, 2005 Form PTO-1449 is submitted herewith.

II. Art Rejections

In item 6 on page 4 of the Office Action, claims 32, 34 and 36-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone et al. (U.S. 6,642,939, hereinafter "Vallone") in view of Vynne et al. (U.S. 5,960,081, hereinafter "Vynne") and further in view of Mohamed.

Without intending to acquiesce to this rejection, independent claims 32 and 37 have each been amended in order to more clearly illustrate the marked differences between the present invention and the applied references. Accordingly, the Applicants respectfully submit that the present invention is clearly patentable over the applied references for the following reasons.

The present invention provides a broadcast data receiving device and method for receiving and outputting broadcast data including a plurality of multimedia data and attribute information. Claim 32 recites the broadcast receiving device of the present invention, and claim 37 recites the broadcast receiving method of the present invention.

In particular, claim 32 defines the broadcast receiving device as comprising a receiving unit operable to sequentially receive the plurality of multimedia data and the attribute information. Claim 37 defines the broadcast receiving method as comprising sequentially receiving the plurality of multimedia data and the attribute information.

Claims 32 and 37 each recite that the plurality of multimedia data and the attribute information are included independently of each other in the broadcast data, and that the attribute information includes a table of information respectively corresponding to the plurality of multimedia data.

Claim 32 further defines the broadcast receiving device as comprising a managing unit operable to create management information for collectively managing the plurality of multimedia data and the attribute information, and to manage the received multimedia data with reference to the attribute information associated with the management information.

Claim 37 defines the broadcast receiving method as comprising creating management information for collectively managing the plurality of received multimedia data and the attribute information. In addition, claim 37 defines the broadcast receiving method as comprising managing the plurality of multimedia data and the attribute information included in the broadcast data, and managing the received multimedia data with reference to the attribute information associated with the management information.

Furthermore, claims 32 and 37 each recite that the plurality of multimedia data and the attribute information are kept under management in association with each other.

The Examiner contends that Vallone discloses a device and method that sequentially receive a plurality of multimedia data and attribute information. This, however, is not supported by the disclosure of Vallone for the following reasons.

Vallone discloses receiving multimedia data (input streams) in the form of digital TV signals (MPEG) or analog TV signals (see Column 5, lines 6-20). Vallone, however, clearly does not receive multimedia data and attribute information.

In particular, Vallone discloses that the input streams are converted into an MPEG stream by the input module 101, and the converted MPEG streams are sent to a media switch 102. The media switch 102, 205 buffers the MPEG stream into memory. If the user is watching live TV, the media switch 102, 205 sends the MPEG stream to an output section 103, and writes the MPEG stream simultaneously into the hard disk 105 (see Column 5, lines 36-43). The output section 103 then takes the inputted MPEG streams and produces an analog TV signal according to conventional TV standards. Vallone discloses that an On-Screen Display generator of the output section 103 uses its program logic to supply images which may be overlaid on top of the resulting analog TV signal (see Column 5, lines 44-54).

Vallone also discloses that the incoming media stream 301 includes interleaved video 302, 305, 306 and audio 303, 304, 307 segments. The interleaved video and audio segments must be separated and recombined to create separate video 308 and audio 309 streams. Time sequence information (time stamp) is then generated because separate decoders are required to convert MPEG elements back into audio or video analog components. The media switch 205 uses its program logic to associate proper time sequence information for each of the video and audio segments, possibly embedding the appropriate time sequence information into each segment (see Column 5, line 65 to Column 6, line 18 and Figure 3).

The media switch 205 includes four Direct Memory Access (DMA) engines 402-405 each having an associated buffer 410-413, respectively, which are each dedicated to a specific type of data such as video 402, audio 403 and parsed events 405. Vallone discloses that each input stream is inputted into a parser 401 which parses the input stream to look for MPEG distinguished events indicating the start of video, audio or private data segments. Upon finding a particular event, the parser 401 directs the stream to one of the DMA engines having the associated buffer which is specifically dedicated to the found event. For instance, when the parser 401 finds a private data event in the input stream, the parser directs the input stream to the DMA engine 405 having an event buffer 413 which is specifically dedicated to private data events (see Column 6, lines 30-61 and Figures 4-6).

Accordingly, Vallone discloses that when a stream (e.g., MPEG2) is inputted to the media switch 205, the media switch 205 separates the received stream into video data, audio data and private data by passing the stream through the parser 401. At the same time, event data 501 is generated from the stream with respect to each data, i.e., the video data, the audio data and the private data (see Column 6, lines 45-61).

Each event 501 in the event buffer 413 has an address offset 502, an event type 503 and a time stamp 504 field. The offset 502 in the event 501 allows the program logic to find the event in the inputted MPEG stream. The event type 503 in the event allows the program logic to identify what type of event, such as audio information, is present in the inputted MPEG stream (see Column 6, line 62 to Column 7, line 7 and Figures 4-5). The event buffer 413, 601 is filled with events while the inputted MPEG stream passes through the parser 401. When the event buffer 413, 601 is interrupted by the media switch 102, 205, 601, the program logic of the media switch 102, 205, 601 reads the accumulated events. From these accumulated events, the program logic generates a sequence of logical segments 603 which correspond to the parsed MPEG segments 615.

The Examiner refers to Column 7, lines 24-38 to conclude that Vallone receives both multimedia data and attribute information.

Column 7, lines 24-38 provides:

The program logic continues collecting [generated] logical segments 603 until it reaches the fixed buffer size. When this occurs, the program logic generates a new buffer, called a Packetized Elementary Stream (PES) 605 buffer containing these logical segments 603 in order, plus ancillary control information. Each logical segment points 604 directly to the circular buffer, e.g., the video buffer 613, filled by the Media Switch 601. This new buffer is then passed to other logic components, which may further process the stream in the buffer in some way, such as presenting it for decoding or writing it to the storage media. Thus, the MPEG data is not copied from one location in memory to another by the processor. This results in a more cost effective design since lower memory bandwidth and processor bandwidth is required.

Accordingly, Vallone discloses that each value in, for example, video data is converted into a logical value and is stored to a PES buffer.

Vallone discloses that the parser 401, 705 detects the beginning of all important events in a video or audio stream, such as the start of frames or the start of sequence

headers, and places tags 707 into the logical segments when the parser is given video or audio segments, or private data (see Column 8, lines 8-30).

Vallone also discloses that once a closed caption (CC) is received in analog inputted streams, the parser extracts a word from the CC, and a special segment is added to a PES buffer to establish time synchronization between the word and video and audio data. A start timing and end timing of the word is determined with reference to a previously-prepared word-state table (see Column 12, lines 5-34 and Figure 12).

Accordingly, Vallone merely discloses that input streams (multimedia data) are received and that the "attribute information" (i.e., event data 501 including address offset 502, an event type 503 and a time stamp 504 fields of the events) is generated after the received input streams are parsed by the parser 401.

Therefore, Vallone clearly does not disclose or suggest a broadcast data receiving device or method for sequentially receiving the plurality of multimedia data and the attribute information, as recited in claims 32 and 37.

Furthermore, the provisional application of Vallone (60/127,128) also does not disclose or suggest this feature of claims 32 and 37.

Moreover, as acknowledged by the Examiner, Vallone also does not disclose or suggest:

- (1) the plurality of multimedia data and the attribute information are included independently of each other in the broadcast data, as recited in claims 32 and 37.

It must be noted that the provisional application of Vallone also does not disclose or suggest feature (1).

In particular, the provisional application of Vallone discloses a method for transmitting data used for ensuring that information in a central site database 100 is the same as information in a client site database 200 as shown in Figure 1.

Specifically, the provisional application of Vallone discloses that data contained in the database 100 of the server is appropriately divided into a plurality of pieces of data (subsets), and the subsets are transmitted as object data to a terminal (client system 101) by using a broadcast wave (broadcast transmission 108) or a telephone line (telephony

service 111). The terminal collects the transmitted data so as to construct the same data as the data that has been contained in the database 100 of the server.

With reference to the description under the heading "The Database of Television Viewing Information" in the detailed description of the invention section of the provisional application of Vallone, an "object," which corresponds to the "multimedia data" of the present application, is described as a data item to be transmitted or collected. With reference to the description under the heading "Basic Television Viewing Object Principles" in the detailed description of the invention section of the provisional application, the provisional application discloses that "television viewing objects are structured as a collection of attributes." (emphasis added) Accordingly, the provisional application of Vallone discloses that a part of an "object" is termed an "attribute" and the "object" is a collection of "attributes."

Accordingly, the provisional application clearly discloses that the "attribute" and the "object" are not included independently of each other in the broadcast wave since an object is a collection of attributes when the object is transmitted from the central server 100 to the client terminals 101.

Therefore, similar to Vallone, the provisional of Vallone also fails to disclose or suggest that the plurality of multimedia data and the attribute information are included independently of each other in the broadcast data, as recited in claims 32 and 37.

Vynne discloses that digital data (watermark, signature), which is embedded in video data that has been compressed, is extracted from the video data. As shown in Table 3.1 of Vynne (see Column 16), signature information is extracted from a video frame so as to construct table information.

However, Vynne is characterized in that the digital data (watermark, signature) is embedded in the image data so as to make the digital data invisible, and the digital data (watermark, signature) having been embedded is extracted by using a predetermined algorithm. This is clear from the passage of "[t]his invention introduces the idea of adding an imperceptible or barely visible signature or watermark to the images," as described in lines 45-47 of Column 9 of Vynne. Therefore, Vynne is concerned with making it difficult for a third person to notice the presence of the digital data (watermark,

signature) and thereby make it difficult to tamper with the digital data (watermark, signature).

Accordingly, it would not be obvious from the disclosure of Vallone and Vynne to separate the signature information from the image data, which is in stark contrast to the inventions of claims 32 and 37, which recite that the plurality of multimedia data and the attribute information are included independently of each other in the broadcast data.

Separating the signature information from the image data would actually defeat the purpose of Vynne, which is to make digital data (watermark, signature) imperceptible or barely visible to a third party so as to make it difficult to tamper with the digital data. On the contrary, the separation of the digital data (watermark, signature) from the image data of Vynne would allow a third party to notice the presence of the digital data and thereby make it easier for the third party to tamper with the signature information.

Moreover, according to the stated purpose of Vynne of making the digital data (watermark, signature) imperceptible or barely visible, one skilled in the art would not have been motivated to modify Vynne the embedding of the digital data according to Vynne to separate the digital data from the image data. Furthermore, Vynne does not contemplate such a modification.

Therefore, similar to Vallone and its provisional application, Vynne also does not disclose or suggest that a plurality of multimedia data and attribute information are included independently of each other in broadcast data, as recited in claims 32 and 37.

Mohamed discloses that a descriptor (corresponding to the attribute information of the present invention) representing information that indicates a feature of a content (corresponding to the multimedia data of the present invention) is extracted from the content, such as audio data and video data, to effectively retrieve the content by using the extracted descriptor. This is obvious from the second and third paragraphs in section 1 of Mohamed (see page 61).

Further, Mohamed discloses that the extracted descriptor is information indicating the feature of the content itself. This is because when the content is retrieved, the descriptor, instead of the content, is the subject to be retrieved, and therefore, the descriptor must contain information representing the feature of the content. That is, when the descriptor does not contain the information representing the feature of the content, the

content having the feature that is desired by the user cannot be retrieved. This is obvious from the passage "Feature Extraction: Most of the work that has been done for image and video retrieval by content, has focused on either using low level visual features such as color, shape, and texture, or using full text retrieval," as described in line 27 to 31 in the right column on page 63 of Mohamed.

Accordingly, the descriptor of Mohamed (corresponding to the attribute information of the present invention) is information that is used for assisting the retrieval of the content. On the contrary, the descriptor is not information that is used for managing the multimedia data as recited in claims 32 and 37.

Therefore, even if Vynne were interpreted as disclosing or suggesting table information, the content of the table information of Vynne cannot be applied to MPEG-7. That is, Vynne does not disclose or suggest that the digital data (watermark, signature) corresponding to the attribute information of claims 32 and 37 is included independently of the multimedia data in the broadcast data, and therefore, it would not have been obvious to modify Vynne and Mohammed to arrive at this feature of claims 32 and 37.

Furthermore, even if the invention of Vynne is combined with Mohamed, the descriptor (corresponding to the attribute information of the present invention) disclosed in MPEG-7 must be equivalent to information for managing the multimedia data as recited in claims 32 and 37. However, in this case, a content cannot be retrieved as intended, which defeats the purpose of Mohamed.

Therefore, it is impossible for one skilled in the art to combine Vynne and Mohammed to arrive at:

- (1) the plurality of multimedia data and the attribute information are included independently of each other in the broadcast data,
- (2) creating management information for collectively managing the plurality of received multimedia data and the attribute information, and
- (3) managing the plurality of multimedia data and the attribute information included in the broadcast data, and managing the received multimedia data with reference to the attribute information associated with the management information, as recited in claims 32 and 37.

Moreover, the Applicants respectfully submit that Column 9, lines 19-36 of Vallone also clearly do not result in features (2) and (3) of claims 32 and 37. The Examiner refers to this section of Vallone in an attempt to teach features (2) and (3). However, this section of Vallone is concerned with controlling buffers for receiving the multimedia data. As demonstrated above, Vallone does not receive the plurality of multimedia data independently of the attribute data in the broadcast data. Moreover, as described in Column 9, line 65 to Column 10, line 10, the control of buffers for receiving multimedia data (streams) as described in the section of Column 9, lines 19-36 is performed separately from the control of the streams themselves.

Therefore, similar to Vynne and Mohamed, Vallone also clearly fails to disclose or suggest:

- (2) creating management information for collectively managing the plurality of received multimedia data and the attribute information, and
- (3) managing the plurality of multimedia data and the attribute information included in the broadcast data, and managing the received multimedia data with reference to the attribute information associated with the management information, as recited in claims 32 and 37.

Accordingly, for at least the foregoing reasons, the Applicants respectfully submit that features (1) to (3) are clearly not disclosed or suggested by Vallone, the provisional application of Vallone, Vynne and Mohamed.

On page 3 of the Office Action, the Examiner asserts that because claims 32 and 37 are open ended (comprising) and lines 19-23 on page 53 of the specification provide that "numerous other modifications and variations can be devised without departing from the scope of the invention," the Examiner purports that his interpretation of the applied references teach all the limitations of claims 32 and 37.

This assertion is contrary to the well-settled provisions of U.S. patent law. An Examiner is afforded a broad reasonable interpretation of the features that are recited in a claimed invention. However, just because a claim is open ended (comprising) does not permit an Examiner to forego his burden of establishing a *prima facie* case of obviousness.

The Examiner is respectfully reminded that to establish *prima facie* obviousness of a claimed invention under 35 U.S.C. 103(a), all of the claim limitations must be disclosed or suggested by the applied prior art. See CFMT, Inc. v. YieldUp Int'l Corp., 349 F.3d 1333, 1342, 68 U.S.P.Q.2D 1940, 1946-47 (Fed. Cir. 2003); In re Royka, 490 F.2d 981, 985, 180 U.S.P.Q. 580, 583 (C.C.P.A. 1974).

As clearly demonstrated above, features (1) to (3) are clearly not disclosed or suggested by Vallone, the provisional application of Vallone, Vynne and Mohamed.

Therefore, no obvious combination of Vallone, the provisional application of Vallone, Vynne and Mohamed would result in the inventions of claims 32 and 37 since Vallone, the provisional application of Vallone, Vynne and Mohamed, either individually or in combination, clearly fail to disclose or suggest each features (1) to (3) of claims 32 and 37.

Accordingly, the Applicants respectfully submit that claims 32 and 37 are clearly patentable over Vallone, the provisional application of Vallone, Vynne and Mohamed since these references clearly fail to disclose or suggest each and every limitation of claims 32 and 37.

In item 9 on page 7 of the Office Action, dependent claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone, Vynne and Mohamed and further in view of "Official Notice."

In item 11 on page 8 of the Office Action, dependent claims 38-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone, Vynne and Mohamed in view of Shoff (U.S. 6,240,55, hereinafter Shoff) and further in view of "Official Notice."

In item 13 on page 10 of the Office Action, claims 32, 34 and 36-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone et al. in view of Vynne and further in view of Augenbraun et al. (U.S. 5,857,181, hereinafter Augenbraun).

In item 16 on page 13 of the Office Action, claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone in view of Vynne and Augenbraun and further in view of "Official Notice."

In item 18 on page 13 of the Office Action, claims 38-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone, Vynne and Augenbraun in view of Shoff and further in view of "Official Notice."

In item 20 on page 16 of the Office Action, claims 32, 34 and 36-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone in view of Vynne and further in view of Wright et al. (WO 99/22502, hereinafter Wright).

In item 23 on page 18 of the Office Action, claim 35 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone in view of Vynne and Wright and further in view of "Official Notice."

In item 25 on page 19 of the Office Action, claims 38-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Vallone, Vynne and Wright in view of Shoff and further in view of "Official Notice."

As demonstrated above, Vallone, the provisional application of Vallone, Vynne and Mohamed, either individually or in combination, clearly fail to disclose or suggest each features (1) to (3) of claims 32 and 37.

Similarly, Shoff, Augenbraun, Wright and the Examiner's "Official Notice," including the references used to support the Examiner's Official Notice," also clearly fail to disclose or suggest features (1) to (3) of claims 32 and 37.

Therefore, no obvious combination of Vallone, the provisional application of Vallone, Vynne, Mohamed, Shoff, Augenbraun, Wright and the Examiner's "Official Notice" would result in the inventions of claims 32 and 37 since these references, either individually or in combination, clearly fail to disclose each and every limitation of claims 32 and 37.

Furthermore, it is submitted that the clear distinctions discussed above are such that a person having ordinary skill in the art at the time the invention was made would not have been motivated to modify the applied references in such as manner as to result in, or otherwise render obvious, the present invention as recited in claims 32 and 37.

Therefore, it is submitted that the claims 32 and 37, as well as claims 34-36 and 38-43 which depend therefrom, are clearly allowable over the prior art as applied by the Examiner.

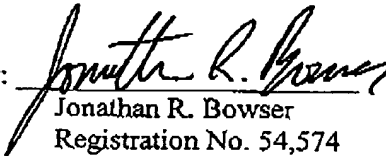
In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

A fee and a Petition for a three-month Extension of Time are filed herewith pursuant to 37 CFR § 1.136(a).

Respectfully submitted,

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Sheet 1 of 1 INFORMATION DISCLOSURE STATEMENT							
FORM PTO 1449 (modified)				ATTY DOCKET NO. 2000 0727A		SERIAL NO. 09/590,075	
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE				APPLICANT Eiji UEDA et al.			
LIST OF REFERENCES CITED BY APPLICANT(S) (Use several sheets if necessary)				FILING DATE June 9, 2000		GROUP 2154	
Date Submitted to PTO: September 19, 2005							
U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA						
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OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AO	Mohamed Abdel-Mottaleb et al., "MPEG-7: Applications and Supporting Technologies," VLBV, Proceedings of VLBV, International Workshop On Very Low Bitrate Video Coding, pages 61-64, 1998, XP 000865753.					
	AP						
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PAGE 23/23 * RCVD AT 10/23/2006 8:03:34 PM [Eastern Daylight Time] * SVR:USPTO-EFXXF-1/4 * DNIS:2738300 * CSID:2027218250 * DURATION (mm:ss):06-30